Claims

[c1] 1. A method for the regeneration of a plant comprising the steps of:

a) providing a plant explant comprising a shoot meristem or primordia;

b) culturing the explant in a media comprising an apical dominance inhibitor in a manner inducing bud or shoot formation from the explant; and

c) rooting the explants containing buds or shoots to produce a plant.

[c2] 2. The method of claim 1, wherein said media also contains an auxin or a cytokinin.

[c3] 3. The method of claim 2, wherein said auxin is IAA.

[c4] 4. The method of claim 2, wherein said cytokinin is BA or ZR.

[c5] 5. The method of claim 1, wherein said apical dominance inhibitor is dikegulac.

[c6] 6. The method of claim 5, wherein the dikegulac is a salt.

[c7] 7. The method of claim 5, wherein the dikegulac is a free acid.

[c8] 8. The method of claim 5, wherein the dikegulac is Atrimmec ® .

[c9] 9. The method of claim 5, wherein the dikegulac is present at a concentration from about 5 to about5000 mg/L.

[c10] 10. The method of claim 9, wherein the dikegulac is present at a concentration from about 10 to about 1000 mg/L.

[c11] 11. The method of claim 1, wherein said plant is a dicotyledonous plant.

[c12] 12. The method of claim 11, wherein said plant is a cotton plant.

[c13] 13. The method of claim 12, wherein said cotton plant is SG747, SG125, HS26, PM2379, DP388, STVL474, DP50, or other commercial variety or elite line.

[c14] 14. The method of claim 11, wherein said plant is a soybean plant.

[c15] 15. The method of claim 1, wherein said explant is the zygotic embryo or an explant portion thereof.

[c16] 16. The method of claim 1, wherein said explant is a node, the cotyledonary node, shoot tip, or an explant portion thereof.

[c17] 17. The method of claim 1, wherein said explant is an in vitro-produced shoot, tissue culture, shoot culture, or portion thereof.

[c18] 18. The method of claim 1, wherein the media is MS, MS/B5, GD1, Gamborg's media, WPM, modified LP, DKW, Nitsch and Nitsch media, or Schenk and Hildebrandt media, or modifications therefrom.

[c19] 19. A method for the regeneration of a transgenic plant comprising the steps of:
a) providing an explant of a plant comprising a shoot meristem or primordia;
b) introducing a recombinant DNA vector into the explant to generate a transformed explant;
c) culturing the transformed explant in a media comprising an apical dominance inhibitor in a manner inducing bud or shoot formation from the transformed explant; and
d) rooting the transformed explants containing buds or shoots to produce a transgenic plant.

[c20] 20. The method of claim 19, wherein the recombinant DNA vector is transformed into the explant after in vitro bud or shoot formation in culture.

[c21] 21. A transgenic plant produced from the method of claim 19, and progeny derived therefrom.

[c22] 22. A method of wounding shoot meristems or primordia for the purpose of *Agrobacterium* -mediated transformation, comprising the steps of
a. adding a suspension of magnetic particles to meristems or primordia to form a mixture; and
b. moving the particle suspension and meristem mixture within a magnetic field.

[c23] 23. The method of claim 22, wherein the magnetic particle suspension also contains *Agrobacterium* .